Program for Our

Monthly Physiotherapeutic Lecture Clinic

Monday, March 8th, 1926

HERMAN J. NEUBAUER, M. D., Hinckley, Illinois.
"Why the Country Doctor Should Use Diathermy"
- - - - - - - - - - - - - - 10:00 to 11:00 A. M.

DRS. HELWIG AND HAMMON, Vincennes, Ind.
"Tonsil Clinic—A Further Demonstration of Technic"
- - - - - - - - - - - - - - 11:00 to 12:00 A. M.

JAMES L. SMITH, M. D., Chicago, Illinois.
"Diathermy Research in Some of the Larger Medical Schools"
- - - - - - - - - - - - - - 1:30 to 2:30 P. M.

HERMAN J. NEUBAUER, M. D., Hinckley, Illinois.
"Inter-relationship of Quartz Light and Diathermy"
- - - - - - - - - - - - - - 2:30 to 3:30 P. M.

Physicians and surgeons are cordially invited to attend these lecture clinics, which are open to medical men without fee or obligation. The meetings are strictly informal, and are wholly under the supervision of the various physicians on each program. Following each lecture or clinic, opportunity is afforded for open discussion of any of the subjects covered.

Doctors Helwig and Hammon are returning for a second demonstration of their highly interesting and successful tonsil technic, in response to numerous requests. Herman J. Neubauer will speak out of the wealth of his experience in the field, and Dr. Smith will report on his recent investigation of conditions in medical schools.

The Fischer Plant is easily reached by elevated, surface lines or motor car.

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FISCHER'S MAGAZINE

Fischer
CHICAGO, ILL.

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FEBRUARY, 1926

377

THE FUNDAMENTAL PRINCIPLE OF EVERY WORTHY ENTERPRISE IS FAITH.

WASHINGTON HAD FAITH AT VALLEY FORGE; LINCOLN HAD FAITH AT GETTYSBURG; ROOSEVELT HAD FAITH IN THE AMERICAN PEOPLE.

FAITH IS THE FOUNDATION OF ALL BUSINESS, THE KEYNOTE OF ALL RELIGION.

Fischer's Magazine

Devoted to the advancement of the Science of Electro-Physiotherapy and to the interests of those earnest and enlightened medical men who are practicing it.

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Vol. V. February, 1926 No. 2

The "Princess Sunshine"

In the death of England's Queen Mother, Alexandra, there came to its close a life that bridged a gap of two centuries—centuries so distinct that they might have contained two separate civilizations in their social and scientific achievements.

A world of events were "traced on the scroll of her life" between the triumphant entry into a London of 2,000,000 inhabitants and her processional departure from a London of 7,000,000 people.

And so, too, are the epochs of medicine which she had known marked with advance—from the days of bleeding when each physician carried leeches to these modern days of physiotherapy.

To Queen Alexandra physiotherapy owes a debt.

"Any work for the alleviation of pain and suffering was sure of her sympathy and charity," writes the London Sphere in reviewing the late queen mother's life. "It was to her initiative that the Finsen Light Treatment for the painful disease of lupus was instituted in the London hospital."

So keen was the interest of the queen mother in the pioneer work of her compatriot Finsen in actinotherapy, that she endowed the ultra-violet clinic of the London hospital, sending members of its medical staff to her native Copenhagen to study Dr. Finsen's technique.

Thus, one day in the year became associated with her name in England—Alexandra Day—when wild roses were sold in every city and hamlet for the benefit of her hospitals.

And so, too, it was that in the final years of her life she bore out the name which her adopted people gave her in her youth as the bride of King Edward—"Princess Sunshine."

Diathermy in Pneumonia

By LLOYD M. OTIS, M. D.
Celina, Ohio

One should see a pneumonia patient treated in order to appreciate the changes in his signs and symptoms. Shortly after diathermy is begun, the operator sees his patient becoming more comfortable. Respiratory effort is lessened; his expiratory grunt disappears. If he is cyanosed, you will see this condition disappear. Several hours after treatment, the patient seems almost completely relieved, symptomatically. He generally enjoys his first sleep and the physician sees his patient on the road to recovery.

Physiotherapists can definitely make one statement: That, regardless of the stage at which diathermy is begun, the disease is greatly shortened; the temperature curve goes down after the first or second treatment; and the patient is relieved of all symptoms, a severe disease being converted into a mild one. I can express one opinion that will be borne out by any one who has employed diathermy in pneumonia, and that is: If all cases were started on this treatment within 48 hours from their onset, the medical profession would never see another case of typical pneumonia.

I have picked out at random from my pneumonia cases the type the physician ordinarily meets and will show the response of each to the treatment. In this list are the following: lobar, lobular, central, unresolved, and two postoperative cases.

Lobar Pneumonia

Case 1.—Mr. H. L.: Confectioner, age 53. On April 3, 1924, he had a chill lasting about 20 minutes. In a few hours he developed a severe pain in the lower right chest, considerably aggravated by a dry cough. At noon, the following day, he was removed to the hospital. Upon examination, the lower lobe of his right lung presented increased tactile fremitus; dullness upon percussion; tubular breathing upon auscultation. The sputum was blood-stained; temperature 104° F.; pulse 144; respiration 30; blood count 28,250 leucocytes. Diagnosis: Lobar pneumonia.

Treatment with diathermy was instituted, the first application lasting 45 minutes. At 3 P. M. the same day, the temperature was 103° F.; pulse 120; and the patient felt more comfortable. In the evening he sweat freely and rested well after midnight. At 6 A. M. the next morning, his temperature was 101° F.; pulse 112; respirations 28. At 7:30 A. M., another diathermy treatment was given, and, at 9 A. M., the temperature was 99.2° F.; pulse 122; respirations 28. In the afternoon, another treatment was given lasting one hour, and, at 6 P. M., temperature was 100°; pulse 106; respirations 28. At 6 A. M. the following day, his temperature had dropped to 98.2°; pulse 86; respirations 22; at 6 P. M., however, his temperature was 99.2°; pulse 100; respirations 28. This was his last rise of temperature, crisis taking place on the 3rd day. Daily treatments with diathermy were continued until he left the hospital on the 6th day. Five days after the onset he was walking about the hospital.

Lobular Pneumonia

Case 2.—Mrs. A. W.: age 45, housewife on farm. On December 28, was taken with chills and shortness of breath. Ached throughout body. On Sunday, December 30, she began to have a slight cough, which was painful and at times blood-streaked. Shortness of breath grew worse and patient became cyanosed. When, on January 6, she was brought to the hospital, x-ray showed a severe bronchopneumonia in right lung and some involvement of upper left lobe. Right lung almost completely consolidated. Patient entered with temperature 102.6° F.; pulse 130; respirations 48. Diathermy was given the evening of entrance. The next day two treatments, and, at 9 P. M., a little over 24 hours after entrance, she had a temperature 99.6° F.; pulse 100; respirations 36. It was not until the fourth day that respirations were normal, and from then on the patient was in good general condition. Began walking on sixth day. Discharged the seventh day. X-ray on January 12, six days after entrance, showed lung entirely cleared up with exception of slight peribronchial thickening.

Unresolved Pneumonia in Left Lung, Later Complicated by Central Pneumonia in Right

Case 3.—Mr. J.: age 20, developed left lobar pneumonia about the 7th of January, 1925. He went through the disease without any complications and seemed to be convalescing normally until January 30, when he showed an elevation of temperature and complained of pain in the right lung. Dyspnea was severe and pulse 140. I was called in consultation February 2, and we were unable to diagnose the condition except that his left-sided pneumonia had not entirely resolved and a dull spot was found about three inches in diameter on the right. The extreme pain led us to do a paracentesis, expecting to find a pleural involvement. We moved him to the hospital, and the x-ray cleared up the diagnosis. There was a central pneumonia in the right chest and an unresolved pneumonia in the left.

At the time he entered the hospital, 6 P. M., he had a temperature of 102.5° F.; pulse 145; respirations 38. Diathermy was started at once and he slept for two hours after the treatment. At 7:30 P. M., the temperature was 101.2°; pulse 140; respirations 34. He was, at this time, perspiring freely. During the night he still had considerable pain and diathermy was repeated at 2:30 A. M. Treatments were given for 40 minutes on each side of chest. At 5 A. M., his temperature was 99°; pulse 126; respirations 32. In the afternoon, he developed a severe attack of hiccough and the third diathermy treatment was given. The hiccough stopped, and at 6 P. M., his temperature was 98°; pulse 100; respirations 18. The following day he expectorated considerable bloody sputum and perspired freely. Diathermy was continued twice daily. Cough stopped on the fifth day. His strength returned rapidly, his appetite was good, temperature and pulse normal. He was kept in bed eleven days and in the hospital two weeks in order that a good convalescence might be obtained.

Postoperative Pneumonia

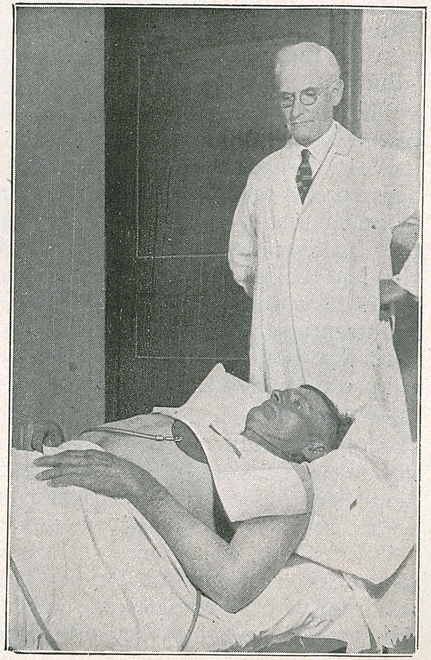
Case 4.—Age 23, operated upon January 21, 1924, for hernia. On January 24 at 4 P. M., he had a temperature of 102.6° F.; pulse 116; respirations 30. A physical examination disclosed the signs of a postoperative pneumonia. At 6:30, diathermy treatment was given. The next day at 4 P. M., his temperature was 101.8°; pulse 110, respirations 28. Diathermy treatment was given twice each day and on the third day his temperature was 99°; pulse 82; respirations 22. After that, his temperature, pulse and respiration remained normal.

Technic

This is comparatively simple. The bipolar method, through and through, is used. Two electrodes about 4x6 inches are placed over the affected lobes, one anteriorly and the other posteriorly. The electrodes can be cut from a strip of block tin, or German silver mesh may be used. Hot soap suds is applied to the skin and electrodes. The current is started at 300 to 400 milliamperes for two or three minutes, then raised to 600 to 700 ma. for two or three minutes and gradually advanced in this way up to the patient's tolerance of heat, which will vary from 1700 to 2300 milliamperes. It is maintained at this heat for not less than 30 to 40 minutes. Then the rheostat is gradually reversed during about 5 minutes. The entire treatment requires from 45 minutes to one hour.

Conclusion

The practice of medicine has been given a valuable therapeutic agent in diathermy. Pneumonia, in the first 48 hours, is generally aborted. Applied later, the disease is considerably shortened, the patient's symptoms reduced to a minimum and the disease freed of its high mortality.



Diathermy treatment of Pneumonia.

Diathermy in Pneumonia Following Typhoid and Complicated by Diabetes

By HARRY E. STEWART, M. D.
New Haven, Conn.

Case.—Mr. F. A. V., a banker, aged sixty, married, with six children. The patient's mother died of pneumonia complicated by diabetes at the age of sixty. There had been excellent general health throughout all adult life until six years ago when diabetes developed. The patient was one of the very first to receive insulin and has been under insulin and special diet for three years.

On December 1, 1924, the patient complained of general aches and pains all over the body especially in the abdomen, with slight fever and diarrhea. There were three cases of influenza in the house and his complaint was first diagnosed as influenza.

The temperature ran from 99° to 102° F. for two weeks gradually subsiding, when it again rose sharply to 102° and above. A Widal test was taken and found positive for typhoid. This second rise indicated his first relapse which ran from the fifteenth to the twenty-fifth day of his illness, during which time his average calorie intake was but little over six hundred. He had hallucinations, twitching of the limbs and marked traces of sugar in the urine. The second relapse lasted from the twenty-seventh to the thirty-seventh day when it remitted until the fifty-first day, at which time there occurred a third relapse of typhoid. He suffered at this time from a persistent carbuncle.

The temperature reached normal on the sixtieth day remaining so until the sixty-fifth day when a patch of lobular pneumonia developed in the left lower lobe, fever reaching 104° F. on the seventy-second day.

The patient was seen by Harlow Brooks, Evan Evans, G. Reese Satterlee, George Draper and Warren Coleman in consultation with Barnesby and Glafke in charge of the case. On the seventy-sixth day there developed a second patch of pneumonia on the right side. At that time his blood sugar was 187, white blood cells 6700, 85 per cent polymorphonuclears, and the stool was negative for typhoid. On the eighty-third day there developed a third pneumonic process in the upper left lobe, which patch persisted, his febrile reaction never reaching 101° F. until the ninety-fourth day when I first saw him.

His general condition at that time was as follows: Pulse rapid and slightly irregular. Much pain in chest and coughing heavily. Extremely nervous, unable to sleep more than thirty minutes at a time. Expectorating brown blood-streaked mucus, limbs twitching a great deal. Nervous reserve entirely gone. He was receiving forty units of insulin, fifteen minims of digitalis twice daily, and one half grain of codeine every four hours which was not quieting the pain nor inducing sleep. Urine showed two plus sugar, blood sugar 256, 53 per cent carbon dioxide, red blood cells 4,210,000, white blood cells 8,200, 74 per cent polymorphonuclears.

An anteroposterior diathermy by two five by seven flexible metal electrodes was given for twenty-five minutes at 1800 milliamperes, passing directly through the heart area. The appearance of the patient changed remarkably during the first treatment. The lines of pain and anxiety faded from his face, his pain remitted, there was an improvement in color and he slept two hours and thirty-five minutes following the first treatment, waking up greatly refreshed.

The treatments were repeated five times daily with a steady improvement in the character of the pulse. This point is emphasized because one or two writers have recently expressed the fear of ill results following diathermy through the heart in pneumonia. It might be noted here in passing that in some eighteen to twenty cases where the location of the pneumonia made the passage of the heat through the heart area desirable there was a markedly greater improvement in the quality of the pulse than that which followed the treatment of pneumonia in other locations.

On the fourth day of diathermy treatment this pneumonic patch which had remained solid for fifteen days, entirely disappeared to physical signs and the patient's general condition seemed much improved. Then his temperature rose suddenly to 103° and a fourth distinct patch developed in the left lung outside the heat pathway dircted at the former process. In the opinion of the medical men then attending, this sharp febrile reaction to the fourth pneumonic area was made possible by the rest and storing up of energy secured through the relief diathermy afforded him. The diathermy treatment was immediately applied to the new area, with a steady and satisfactory reduction in temperature and improvement in general condition. The area cleared up on the seventh day. Diathermy was discontinued on the tenth. At that time his blood sugar was 237, red cells 4,296,000, white cells 8900, polymorphonuclears 74 per cent, hemoglobin 87 per cent. The patient was receiving two thousand calories daily.

For two weeks his condition slowly improved, the lungs remained clear, when on the one hundred and twenty-third day of his illness another small area of consolidation in a new location in the left lung appeared. Diathermy was again begun and his temperature returned to normal and the spot cleared in three days after which diathermy was continued three times daily for two weeks, twice daily for an additional week, with large plates to cover the whole lung in the attempt to raise his local resistance and prevent a further process developing. This plan was entirely successful, his temperature has remained practically normal for five weeks, and the patient is now able to be outdoors.

Summary

The history of this case was considered of especial interest since the age of the patient, the complications and the long duration of the disease made it an extremely difficult one. The very low resistance of diabetics to infections of all kinds and the fact that typhoid gave this patient a leucopenia, when to combat his pneumonia he needed a leucocytosis, were the two outstanding difficulties with which we had to contend. The favorable effect of diathermy upon his condition was so clear cut that in the opinion of the patient, his family and the physicians who followed the case it was the determining factor in his recovery.

(From Med. Jour. and Rec., Dec., 1925)

A Technic for Hypertrophied Turbinates

B. L. Doane, M. D., of Los Angeles, Calif., reports an interesting and efficient method of permanently shrinking chronic hypertrophied turbinates by means of diathermy.

The chronic form may consist mainly of bone, which is not amenable to this form of treatment, or of inflammatory connective tissue and hypertrophied mucous membrane, which is the form in which his technic has given such excellent results. This form of hypertrophy is the causative factor in recurrent coryza and rhinitis, inflammations of the lachrymal sac and conjunctiva, chronic catarrh and bad respiratory odors due to decomposing mucus, and numerous conditions dependent upon nasal obstruction.

Dr. Doane uses two electrodes, neither of which is sharp, as there is no cutting to do. The single blade is 3/8 inch long and $\frac{1}{16}$ inch wide. The double blade is 5/8 inch long, fork shaped, flat, and straight; each blade of the pair being $\frac{1}{16}$ inch wide. The blades are $\frac{1}{32}$ inch thick and blunt at the ends. Hard-rubber or Bakelite insulation is used up to the beginning of the blades.

The mucous membrane is first anesthetized with cocain or butyn in the usual manner. An indifferent electrode of large area, 3x6 inches, is placed at the back of the neck. The applicator for the nose is connected to the medium voltage terminal. A milliamperage of about 1200 or 1500, with a fine spark, should be used.

Separate the nasal alae with a nasal speculum, and apply the applicator to the turbinates with a firm pressure, keeping away from the septum. Test out the patient with one or two short flashes of current. If he can tolerate it, give him about five seconds. Repeat the application on whatever areas may be necessary.

This results in coagulating a strip of the turbinate. The usual reaction appears, with swelling and congestion in two or three days, followed by sloughing of a small portion, and finally healing with contraction of the scar, and permanent shrinking of the turbinate.

Drs. Helwig and Hammon to Return

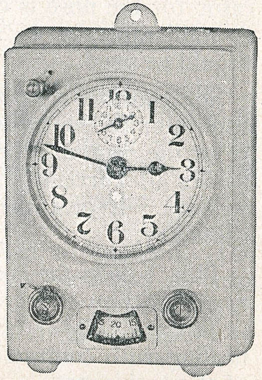
The many physicians who have asked for a repetition of the tonsil clinic conducted at our January meeting by Drs. Helwig and Hammon will be interested to know that these men are to conduct another clinic at the March 8th meeting. The technic they demonstrate has been successfully used in many hundreds of cases, and will be of value to every physician and surgeon who has occasion to perform the tonsil operation.

Cod Liver Oil and Ultra-Violet in Rickets

If an infant has rickets and an idiosyncrasy against cod liver oil, actinotherapy in the form of sun baths or ultraviolet ray exposures should be employed. Cod liver oil extract and irradiated foods have not yet been developed to a sufficient extent to be commercially obtainable in reliable form.

(Abs. from J. A. M. A.)

The Hawkeye Timer



This special clock registers the length of any treatment exactly. A wonderful aid to accurate timing, particularly valuable when the physician is treating more than one patient at a time. The Hawkeye rings an alarm at the exact moment treatment should end. Should be in every diathermy and quartz light treatment room.

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Development of a Physiotherapy Department in a Modern Hospital

By R. B. H. GRADWOHL, M. D.

St. Louis, Mo.

The results of treatment of many conditions by physiotherapy justify us in asserting that the modern Hospital that does not support this department is not fulfilling its proper function nor performing its full duty to the public. The vast amount of research and clinical trial that has attended the development of this part of the remedial art and science has proved certain practical advantages of these measures. We do not wish to decry drug therapy nor deny the achievements of modern surgery, rather we do insist that physiotherapy take its proper place alongside these two methods of application of the healing art.

We allude particularly to diathermy, high frequency, the Morse Wave generator, fulguration, ultra-violet and radiant light. The results of treatment with these modalities have convinced us that we may obtain startling improvement and cure in many cases hitherto considered "beyond the pale." This applies to many conditions that are met with in Hospital practice. In order properly to see these results we must utilize first class equipment. An investment of three thousand dollars, or even less, will equip a Hospital with first class apparatus. As the work increases, more and more units may be installed. The units must be located in that part of the Hospital which is accessible to the majority of patients. The room should be large enough to permit patients to be wheeled or transported by litter or carriage thither. There should be a comfortable couch on which certain patients may recline; a good comfortable flat operating table is very useful. The four principal pieces of apparatus should be located on a line, the ultra-violet light, air-cooled and water-cooled, on one side; the diathermy and high frequency in the middle; the radiant light next in line, and finally, the Morse Wave. This should be a semi-circular arrangement revolving about the end of the operating table.

The room should be under the direction of a competent physiotherapist; by that we mean one who has been trained in the technique and rationale of this line of work. Under him, on duty at all times, or within call, there should be a full time physiotherapy technician, corresponding to the Clinical Laboratory or X-Ray Technician. This technician should honor requisitions of the staff for treatments for various patients and should map out the day's work as far in advance as possible, so that unnecessary and tedious waiting is eliminated. Of course, the day's routine must at times be interrupted by emergency treatments, such as diathermy in pneumonia cases, etc. The technician should collect the requisitions each day, place them at hand for the staff member in charge of the department and be ready at all times to consult on all cases with the staff and the staff member in charge.

Fullest records should be kept of each patient treated, the kind of treatment, the length of time, etc. These should be made out in duplicate, one for the patient's chart, the other for the permanent record of the department. At the end of each month, the department should make a report to the monthly staff meeting, number of cases treated, results, etc., together with a financial report on the income and upkeep of the department. Interesting cases should be chronicled in the Hospital Bulletin or any other publication.

We cannot lay too much emphasis on the necessity of making this department a separate one from all other departments. Just now in many places the physiotherapy department is going through the same evolution which attended the other laboratory departments of Hospitals, namely, the hit-or-miss method, where everybody or anybody is allowed to do the work. We remember the unhappy days of the Clinical Laboratory of the Hospital, when the work was looked after by the interne "when he didn't have anything else to do," or perhaps by a man in general practice, who would run in occasionally (never when he was wanted) and attempt to do the Wassermanns or the Urines only to be interrupted by a call to an obstetrical case or what-not. Naturally, no laboratory service worthy of the name was ever given until the department was made a full time proposition, with some one always in the laboratory, both to handle the equipment properly and to perform the work satisfactorily. Physiotherapy will never come into its own until such a department is operated in every Hospital. No argument that the Hospital cannot afford to do this can be made, for the reason that the results are too definite and clean-cut to permit one to argue them down. Since certain results *are* obtainable only with physiotherapy, therefore, there isn't anything left for the Hospital to do but to install such a department and to operate it properly. Finally, sufficient fees may be collected to pay all operating expenses. Thus we feel we have offered many good reasons why every American Hospital should have a well organized physiotherapy department.

Third Western Convention

Under the Auspices of the

Pacific Physiotherapy Association

Professional Building, Los Angeles

MARCH 15 to 18, 1926

Among the speakers will be:

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M. H. Cottle, M. D.
B. L. Doane, M. D.
M. A. Froncoz, M. D.
Cora Smith King, M. D.
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Science Rules Human Life

Dr. William Mayo recently pointed out to a Chicago audience that 75 per cent of human energy is used up in heating and bodily work, over which the individual will has no control. Scientific law is being followed in the provision of diet, drink, clothing, shelter, and respiration, until we can forsee the day when three-quarters of our life effort will be conducted along scientific lines, whether we will or no.—Chicago Tribune.

That's What I Call a Friend

One whose grip is a little tighter,
One whose smile is a little brighter,
One whose deeds are a little whiter,
That's what I call a friend.

One who'll lend as quick as he'll borrow,
One who's the same today as tomorrow,
One who will share your joy and sorrow,
That's what I call a friend.

One whose thoughts are a little cleaner,
One whose mind is a little keener,
One who avoids those things that are meaner,
That's what I call a friend.

One when you're gone who'll miss you sadly,
One who'll welcome you back again glady,
One who though angered will not speak madly,
That's what I call a friend.

One who is always willing to aid you,
One whose advice has always paid you,
One who's defended when other flayed you,
That's what I call a friend.

One who's been fine when life seemed rotten,
One whose ideals you have not forgotten,
One who has given you more than he's gotten,
That's what I call a friend.

—Leslie Clough.

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Physiotherapy in the Disabilities of Industry

By WILLIAM D. McFEE, M. D.

Boston, Mass.

The early treatment of sprains with light or diathermy followed by the mechanical effect of the static or the sinusoidal currents, resulting in the relief of pain and the prevention or removal of stasis, is one of our noteworthy achievements. The daily treatment of these cases is followed by a rapid restoration to normal function, and the patient in many instances may meanwhile pursue his accustomed activities. In our choice of physical treatment for sprains and allied conditions of injury, we must exercise judgment, first determining the diagnosis by all available means (including the X-ray), and then select and adapt whichever method has given the best results, as shown by our previous observation and experience; no fixed rule can be followed as a constant guide.

If the patient coming to me has an injury such as a strain or a sprain wherein the superficial tissues are mainly involved, it is my custom to first give the part to be treated a thorough application of deep therapy light of high candlepower, which might be termed superficial baking, and which will stimulate the superficial circulation, producing a hyperemia, and thus relieve the painful congestion. This treatment should continue from one-half to one hour, and at as near a distance as the patient can tolerate with comfort; care should be exercised in not allowing the heat from our light to be concentrated on one part long enough to produce a blister, which may result in much discomfort or even an unsightly scar of tissue from the burning. Immediately after this treatment the static wave current or the sinusoidal is applied to the injured parts.

In these mechanical applications it is always well to start with a very small dosage, gradually increasing, and always keeping within a limit which will not cause too painful contractions; this mechanical treatment has the effect of improving the circulation through stimulating the function of blood vessels and lymph channels, thus removing stasis and other effects of primary congestion, as well as preventing the formation of stiffness through the thickening of tissue or the troublesome growth of fibrous adhesions.

When the injury involves the deep structures, the use of diathermy instead of light is preferably indicated because by that means we get a thorough saturation with heat, due to the resistance of the tissue between the opposed electrodes through which is passed the current from our high frequency apparatus; this is sometimes referred to as deep or internal baking. This application should also be followed by one of the mechanical agents mentioned.

Whenever possible the best results will be obtained from daily treatments, particularly during the first few days, after which we may get along all right with an interval of two or three days between treatments; this method of handling these conditions results in a great reduction of the total time necessary for treatment, also in much comfort and saving to the patient, in that he is soon able to attend to the duties of his occupation.

Contused wounds and bruises are markedly relieved, and their recovery hastened by the application of deep therapy light combined in some instances with ultra-violet radiation; in these cases deep therapy light is applied to the injured part at a distance of comfortable toleration, usually fifteen to twenty inches, for one-half to one hour. The use of ultra-violet radiation from the air-cooled lamp, either following this or in its stead, will give an added effect of sterilization and stimulation.

Fractures make a better and surer recovery when treated by diathermy, and our patient will be made much more comfortable thereby. Lacerated wounds will heal more readily, with less pain, and the development of sepsis, with its interference with primary union, is avoided in practically all cases wherein deep therapy light and ultra-violet radiation are used locally as part of their treatment. The symptoms of nervous shock which accompany many of the severe injuries of industry are greatly relieved by such general measures of physiotherapy treatment as the application of deep therapy light to the spine, or the use of the light cabinet bath, followed by the needle shower spray, or shower bath of water.

After recovering from the acute effects of injuries, these patients are all greatly benefited by such general tonic measures of treatment as the static wave current, applied to the spine or properly administered general vibration, which includes the use of the vibrator over the spinal inter-vertebral spaces, over the splanchnic area, and to the various motor nerve points of all muscles.

The heat from therapeutic lamps is comparatively superficial, as is also that obtained from vacuum tube electrodes with high potential currents; the use of non-vacuum tube electrodes, with currents of high potential, gives a better penetration of heat and is much more satisfactory. The one demonstrable physical result of diathermy is the production of heat which is generated in the entire area between the electrodes because of the resistance which the tissues offer to the passage of the high frequency current.

A marked increase of temperature can readily be felt in tissues treated by this method, and animal experiments, conducted by the writer and his co-workers at the Walter Reed Hospital, Washington, D. C., in which thermometers were sunken at various depths in tissues and organs, proved conclusively that by the action of diathermy any desired degree of heat may be obtained under perfect control, and for any length of time, the heat in all cases being generated in the entire mass of tissue between the opposed electrodes.

Mechanical effects are produced by the interrupted galvanic, the faradic, the sinusoidal and static currents, or the high potential resonator discharge; also by vibration, massage and exercise. These are useful for purposes of stimulation, and are reconstructive and eliminative in action.

For chemical effect the positive pole of the galvanic current is acid in reaction, and the negative is alkaline; through this chemical change we may make use of ionic medication or of ionization, whereby we can drive various drugs into the tissues, metals entering under the positive, non-metals under the negative pole. The chemical effect of ultra-violet rays is now well known; the ultra-violet and X-rays are bactericidal in action to a marked degree, stimulating and irritating.

The treatment of fibrous adhesions in and around joint structures offers a wide field for discussion, but the time at our disposal will permit merely a brief description of some observations along this line. Properly speaking, ankylosis is chiefly due to changes in the articulation of the bones; ankylosis begins when the pathological process that causes it has ceased to exist. The early pathological condition should be the object of treatment rather than waiting for the development of ankylosis; the value of early treatment to prevent extensive degenerative changes cannot be too strongly urged.

Having a condition of fibrous ankylosis to overcome, we first get the greatest help from the peneration of heat, preferably that obtained from diathermy; following this, and while the heat is still retained, we employ one of the mentioned mechanical agents, our choice of which one is to be used depending on what is available in our equipment, and where we have the static and sinusoidal currents or the vibrator, we will use that one which is best adapted to the part to be treated, whether large or small in area, superficial or deep, even or uneven in contour. It is quite generally agreed that the mechanical treatment is best preceded by the use of some heat producing agent.

The use of massage or vibration, preliminary to operation of scar tissue, is valuable, loosening the scar, and thus making the work of the surgeon easier; heat in some form should always precede this massage or vibratory treatment.

Patients with strain in muscles and joints, complaining of pain, headache and bacache, conditions so commonly met with among industrial workers, and the cause of which is not always easy to determine, but whose basic factor is usually some neurotic condition, frequently come to us for treatment, having failed to get even a measure of relief by the ordinary methods. These patients quickly improve and are soon able to return to work with greatly increased efficiency by the employment of the various physical measures of treatment.

(Abs. from Am. Jour. Phys. Ther., Sept., 1925)

A Scientist's View of the Therapeutic Lamp Subject

An ancient Indian Chief broadcasting over "KFI" in Los Angeles, California, recently stated that white people were not so healthy now as they should be and he said:

"Pale Face too much house."

What the old chief meant was that the human frame is a machine designed to obtain most of its nourishment from sunlight, either directly or indirectly.

We in our modern civilization carefully cover our bodies from sunlight and live largely within doors.

Pure sunlight at high elevations on mountain tops, consists of a light which is made up of all the rays of the spectrum in perfect balance. These are necessary for the complete nourishment of any form of life.

The therapeutic value of light was at one time thought to consist of the heat or lower red rays, but we now recognize the fact that it should contain a balanced collection of all the rays including the higher or more actinic part of the spectrum.

The colorless incandescent globe in a therapeutic lamp emits the light generated by the filament itself which contains a large proportion of red rays and is therefore unbalanced. To remedy this the blue globe has been designed with just enough blue in its composition to filter out the superabundance of the lower red rays and give a resultant ray which is an almost perfect imitation of pure sunlight on the mountain top and is therefore perfectly balanced.

The therapeutic value of the balanced ray has been recognized by those who have studied its action on the human tissues. The lower component of this ray or the red portion of its make-up generates heat at the surface of the tissue in such a way as to assist the higher rays of the light to penetrate within the tissues in the form of light. After they have so penetrated these higher rays become broken down due to the resistance offered to their penetration and they, themselves, set up heat rays in the interior.

It will be seen that they are therefore just as important to a therapeutic lamp as the explosive is to the charge in a gun, in so far that they are the penetrating portion which enables the light to produce its therapeutic action at a greater depth.

The blue globe in the therapeutic lamp produces an almost ideal artificial sunlight which the old Indian Chief believes to be the crying need of the human race at this time.

—Wm. L. Parker, B. Sc.

Dr. Breuer Prefers the Clear Bulb

The literature states that blue and green light are sedative to inflammatory pain, while red and yellow are irritating. This statement has a sort of apocryphal appearance to me; I have been totally unable to confirm it by my experiments. My own work with it, would seem to confirm rather the following theoretical conception:

Whatever the color is, it will filter out some portion of the spectrum, whereas a colorless glass will pass all the rays from the incandescent filament except the ultra-violet. Therefore, it stands to reason that you are getting the most energy through a colorless glass.

It is true that a patient can endure a light closer to his skin if there is a blue glass over it, than if it is colorless. That is because the glass absorbs some of the rays emitted by the filament. I have not been able to prove, nor to suggest even, that the blue glass cuts down only the rays that affect the sensory nerves, and keeps the rays that produce our desired tissue reaction. The lessened sensory effect is really due to a cutting down of the total efficiency of transmission of the light; quite the same effect that would be obtained by putting the light further away.

In fact, the blue glass cuts out rays that we really need—the yellow, red, and infra-red; these are the longest wave-lengths, and the most penetrating rays. They are the ones that really do the "deep therapy" work.

My opinion is that the clear glass is the best. In case special colored rays are desired for some particular case, screens may be used. The best bulb I have ever found, is the carbon filament in the nitrogen bulb; that emits a large volume of infra-red. But I have never seen these bulbs in larger than 50-watt sizes.

—Miles J. Breuer, M. D.

Treatment of Scars with Radiant Therapy Light

By C. W. LYONS, M. D.
Ellinwood, Kas.

A girl of eleven years was struck on the cheek with a swinging board while playing at school March 4, 1925. The skin was not broken but considerable swelling followed. When the swelling subsided the skin became adherent to the bone leaving a scar 1¾ inches long and ⅜ of an inch wide and you could almost lay your finger in the hole it made in her cheek.

When she was brought to me on March 27th, the tissues were very hard and fibrous and the skin was firmly adherent to the bone and the color typical of scar tissue. I suggested that we try the deep therapy lamp.

After protecting the rest of the head with several thicknesses of heavy Turkish towels, the 1500 Watt lamp was placed within 12 inches of the scar tissue for 15 to 20 minutes daily for thirty days and twice weekly for ten more treatments.

After the first few treatments the tissues began to soften and regain a little of their normal color. At the end of thirty days, the skin had begun to loosen slightly from the bone and the cavity was but one-half as deep as it was at the beginning and the skin had almost regained its normal color.

Massage was then used in conjunction with the light and by the first part of May, there was very marked improvement and the scar showed but little but still there was a saucer shaped depression.

Treatments were discontinued then, but the improvement continued until at this time, July 20th, recovery is complete and there is no sign of the scar left. The skin has regained its color and all the underlying tissues are soft and normal. The result is perfect, thanks to physiotherapy.

(From Am. Jour. Phys. Ther., Sept., 1925)

Diathermy in Gonorrhea

By GEO. W. FUNCK, M. D.

Chicago, Ill.

The successful treatment of gonorrhea with diathermy consists in first accurately diagnosing the location of the infection and then selecting the proper method of applying heat to the parts involved. The results are always better than can be obtained by the older methods of treatment without diathermy, but depend upon various factors, such as the virulence of the infection, the extent of the pathological changes produced in the tissues by the gonococcus and its secondary invaders, the natural resistance of the patient, etc. For the best results diathermy should not be used as an exclusive method of treatment to the neglect of everything else, but should be combined with other forms of therapy; diet, rest, proper but not over-medication, both local and constitutional, quartz light, etc.

Recent acute gonorrheal infections, if not previously improperly treated, are pure gonococcus infections involving only the distal end of the penile urethra. The gonococcus is comparatively easily attenuated or killed by heat. For quick results, long treatments, one or more daily, are necessary. Several methods have met with marked success. Suspend the penis in a beaker containing salt solution as the active electrode, the patient sitting upon the edge of a chair upon which is placed the indifferent block tin electrode. Or, have the patient lie with a large indifferent electrode under the hips; the active electrode being of silver mesh, well soaped, wrapped around the distal one-third of the penis and placed in a small saucer over the pubis to prevent short-circuiting. In both methods the temperature is raised to the patient's tolerance and maintained for at least one hour for each treatment. These methods have the advantage of requiring no intra-urethral instrumentation, which is generally considered undesirable in actue infections. The Corbus urethral electrode has the advantage of permitting the insertion of a thermometer, so that the temperature can be maintained at the optimum of about 107°. The indifferent electrode may be placed over the abdomen or under the hips. The intravenous administration of from 5 to 15cc of a 1% aqueous solution of mercurochrome 220 immediately preceding the diathermy improves the results.

Electrotherapy in Arthritis

By W. C. S. KOEBIG, M. D.

Los Angeles, California

When a patient comes to our office and we see from the history and general examination that we have arthritis to deal with, the first thing we do is to look for its cause. The teeth, tonsils, para-nasal sinuses, genito-urinary, intestinal tract, diet and the endocrines are carefully gone into. A history of trauma or exposure to the elements means to us simply one of the contributing factors, and although the patient may definitely state that a certain exposure to cold or accident was the cause of his trouble, we have found that this merely has brought about an exacerbation of symptoms already present and has forced them upon his attention. A number of exceptions to this rule have, of course, been observed, namely in trauma of the spine and in the larger joints where we could find no evidence of an associated arthritis in other joints. In some cases we can find no contributing focus at all.

Having found the causative factor, which by the way is not always easy, an attempt at removal is made and the symptomatic treatment is pursued. It is a known fact, that following the removal of the active focus of infection, the symptoms often increase; this is especially true when tonsils are removed. The patient will complain bitterly and usually says that he is a great deal worse. Years ago this was very discouraging, but with the aid of our present day physio-therapeutic measures, the patient can be made comfortable and very quickly so in most cases.

The results of treatment in atrophic and hypertrophic arthritic conditions have been varied. We have been able to relieve most of the patients of their pain almost immediately, but the relief was not permanent in the majority of cases. However, I have in mind five cases where joint motion was improved and the ability to walk increased, and one of these who was unable to walk up and down stairs, can now do so. We were fortunate in finding the foci of infection in all of these cases and in eliminating the same. The symptoms in one case of this group were due to disturbed endocrine balance at the menopause; one was suffering from endometritis and had a hysterectomy; again the teeth were to blame; while in another case the amoeba hystolitica was found in the stool. A great deal of temporary relief was given, for which the patients were very grateful, as they had come to me originally with almost unbearable pain. The painful joints were at first put to absolute rest and during this period sedative diathermy, baking and sinusoidal massage were used. As soon as possible, gradually increased active motion with massage was instituted in addition to diathermy. This group of patients has been under treatment now for 12 to 18 months; they are improving daily. However, in no one of them is there a disappearance of the bony deposits and I do not believe, even in those cases where deposits have recently appeared, that any dissolution can be obtained by the non-operative therapeutic measures of which we are at present cognizant. This is also true as to the restoration of destroyed joints.

Gonorrheal arthritis of the acute or subacute type, usually yields nicely to diathermy when treated in conjunction with a capable genito-urinary specialist. The urologist will either find his focus of infection in the vas deferens and do a vasectomy or find it in some other location in the genito-urinary tract and carry out the necessary treatment before referring the case to an orthopedist. Then sedative diathermy is used on the affected joint beginning with a 10 minute step up to 250 or 300 where it is held for 20 minutes, followed by a 10 minute step down, gradually increasing the dosage daily as the signs and symptoms warrant. In the group of cases that we have had under our care, alleviation of the symptoms began in 10 days to two weeks and the patient was discharged at the end of periods varying from three weeks to two months. In this particular type of arthritis, diathermy alone was used.

(Abs. from Am. Jour. Phys. Ther., Dec., 1925)

Ultra Violet Light in Tinea Versicolar

By ALFRED A. STOREY, M. D., and E. N. KIME, M. D.—
Indiana University School of Medicine

This infection affects usually the anterior aspect of the body and is localized more on or around the sternum. It is characterized by a chronic eruption of the skin, in brownish yellow color efoliating branny patches. It is due to Microsporon furfur.

In this case the eruption was more marked in posterior aspect of the body on each side of the vertebral column in the dorso-lumbar region.

First ultra violet exposure was of the air cooled lamp at 10 inches distance and for a period of 1 minute 7 seconds. This did not produce any visible hyperemia, although it was observed that the fungus remained stationary, as evidenced by temporary arrest of the invasion of more skin surface. This observation lasted about 8 days.

Effect of water cooled ultra-violet lamp was tried at same sitting as that of above exposure. The exposure by the water cooled lamp was 1 minute and 47 seconds, the quartz glass resting on the skin. This produced a rather well marked hperemia followed by tenderness and efoliation in 3 days, lasting for two weeks, and with complete disappearance of the eruption. This experiment was performed on an area of about 55 sq. C. M.

Two weeks after the first exposures, an air cooled ultra-violet lamp exposure of 2 minutes and 5 seconds was done in the dorso-lumbar region, where the skin was well marked with the eruption.

The distance was same as in first sitting—10 inches; but the time was prolonged to 2 minutes and 5 seconds. In about one hour a prominent hyperemia was present. This kept increasing for the next three hours. The following night individual could not lie on his back because of the hypersensitiveness, produced by the effects of the ultra-violet light. The following day there was a mild itching sensation. These symptoms: hypersensitiveness, mild pruritus, and discomfort to friction even to individual's own clothing—were present or persisted for one week, increasingly up to the fourth day, and retrogressing from 4th day till the 9th day when all symptoms disappeared, except that the discoloration—a reddish brown color, still remaining up to the 4th week from date of exposure though became less conspicuous with elapse of time.

The effect on the skin eruption was very decisive for the eruption and discoloration caused by the fungus entirely disappeared in about five days from date of exposure.

It seemed evident that the time of exposure should be about two minutes and five seconds. This would eliminate practically all unpleasant complications, such as hypersensitivity, pruritus, and dermatitis.

CONCLUSION

The ultra-violet air cooled lamp at 25 C. M. distance and two minutes and five seconds exposure will entirely destroy tineaversicolor in a single seance.

(From Am. Jour. Phys. Ther., Nov., 1925)

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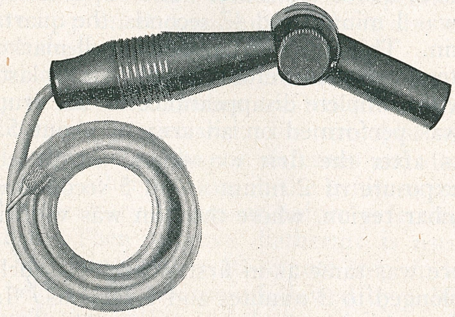

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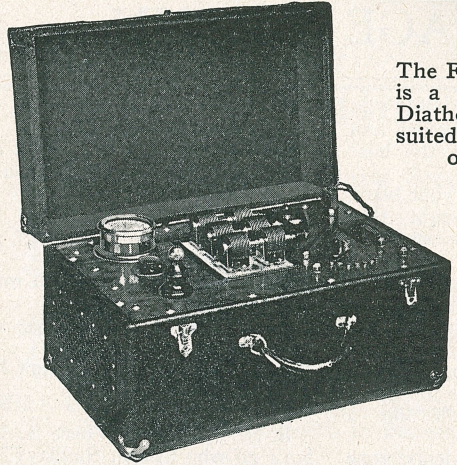

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A PAGE OF FUN

The convalescent — "Did you have my brown suit cleaned and pressed while I was in the hospital?"

His wife—"No, I had your black suit fixed up; I thought that would be better in case anything should happen."

□ □ □

The golfer nonchalantly stepped up to the tee and swung one of those carelessly careful drives. The ball sailed straight down the fairway, leaped gayly across the green and dived into the hole like a prairie dog.

"What have you suddenly gone crazy about?" inquired the golfer's wife, who was trying to learn something about the game.

"Why, I just made a hole in one!" yelled the golfer as he essayed a double handspring with a wild gleam of delight in his eye.

"Did you?" sweetly said the little woman. "Please do it again, dear. I didn't see you."

—Town Life.

Jimson — "What did you and your wife quarrel about?"

Simpson—"Well, she said a certain woman was beautiful and I agreed with her."

□ □ □

Father — "Great heavens, son, how you do look!"

Son—"Yes, Father, I fell into a mud puddle."

Father — "What! And with your new pants on, too?"

Son—"Yes, father, I didn't have time to take them off."

□ □ □

S. S. Teacher—"Where do little boys go who fish on Sunday?"

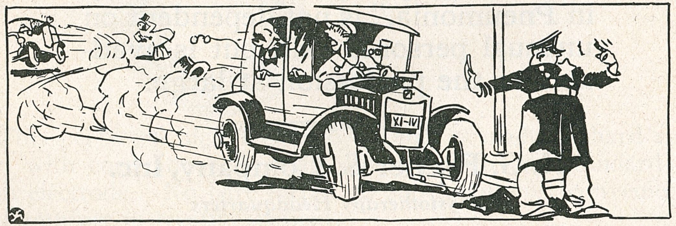
Johnny—"Over to the deep hole on Perkins' farm."

□ □ □

A widower was to be married for the third time, and his bride had been married once before.

The groom-elect wrote across the bottom of the wedding invitation sent to a friend:

"Be sure to come; this is no amateur performance."



Passenger in wildly careening taxi: "Go easy, driver; this is my first ride in a taxi."

Driver: "You got nothing' on me, buddy; it's the first time I ever drove one!"

Last Call for the

February Physiotherapeutic Meeting

Monday, February 8th, 1926

L. K. EASTMAN, M. D., Medical Director and Owner Keystone Hospital, Chicago, Illinois.
"Physiotherapy in the Treatment of Fractures"
- - - - - - - - - - - - - - - 10:00 to 11:00 A. M.

L. M. OTIS, M. D., Medical Superintendent, Otis Hospital, Celina, Ohio.
"Diathermy for the General Practitioner" - 11:00 to 12:00 A. M.

EMILE C. DUVAL, M. D., Chicago, Illinois.
"The Treatment of Osteomyelitis by Diathermy"
- - - - - - - - - - - - - - - - 1:30 to 2:30 P. M.

L. M. OTIS, M. D., Celina, Ohio.
"The Economic Value of Physiotherapy" - 2:30 to 3:30 P. M.

An exceptionally interesting program has been arranged for this meeting, with a variety of subjects which embraces the general practitioner and the industrial surgeon. The talks will be of a practical nature, so that every visitor may take home with him information which will be of use in his daily practice. Following each speaker, there will be a brief general discussion in which all who wish may take part.

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